REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-13 are currently pending in the application. No claim amendments are presented, thus, no new matter is added.

In the outstanding Office Action, Claims 1-2, 5-7 and 10-13 were rejected under 35 U.S.C. § 102(e) as anticipated by Sheu et al. (IEEE ICC, pp. 611-618, "A Fast and Efficient Heuristic Algorithm for the Delay and Delay Variation Bound Multicast Tree Problem," 2001, herein Sheu); and Claims 3-4 and 8-9 were rejected under 35 U.S.C. § 103(a) as unpatentable over Sheu.

In response to the above-noted rejections under 35 U.S.C. § 102 and 35 U.S.C. § 103 in view of Sheu, Applicants respectfully submit that independent Claims 1, 3, 5, 10 and 12 recite novel features clearly not taught or rendered obvious by the applied reference.

Independent Claim 1 is directed to a multicast communication path calculation method for obtaining multicast paths from a given source node to a plurality of destination nodes in a network including a plurality of nodes. The method, in part, comprises the steps of:

> obtaining minimum delay paths from the source node to each of the destination nodes by using topology information and delay information of the network;
>
> ***selecting, as candidate nodes of a rendezvous point node, nodes on one of the obtained minimum delay paths***;
>
> for each of the candidate nodes, calculating minimum delay paths from the candidate node to each of the destination nodes, and obtaining a difference between the maximum value and the minimum value among delays of the calculated minimum delay paths;
>
> selecting, as the rendezvous point node, the candidate node for which the difference is smallest among the differences for all of the candidate nodes ...

Independent Claims 3, 5, 10 and 12, while directed to alternative embodiments, recite substantially similar features. Accordingly, the remarks and arguments presented below are applicable to each of independent Claims 1, 3, 5, 10 and 12.

Turning to the applied reference, Sheu describes that minimum delays between each destination node and each of the other nodes in the network are calculated.[1] Then, for each node in the network, multicast delay variations between the node and each destination node are calculated and a node with a minimum multicast delay variation is selected as a rendezvous point node (e.g., central node).[2]

Sheu, however, fails to teach or suggest "selecting, as candidate nodes of a rendezvous point node, ***nodes on one of the obtained minimum delay paths***," as recited in independent Claim 1.

In rejecting the above-noted claimed feature, the outstanding Office Action relies on p. 614, ll. 15-19 of Sheu. This cited portion of Sheu describes that for each node an associated multicast delay variation between the node and each destination node is computed. Then, the node with the minimum multicast delay variation is selected as the central node. Thus, Sheu describes that a minimum delay between each destination node and each other node in the network is calculated then, for each node between the node and each destination node an associated multicast delay variation is calculated.

In contrast, as recited in Claim 1, the claimed method includes obtaining minimum delay paths from the source node to each of the destination nodes and "selecting, as candidate nodes of a rendezvous point, ***nodes on one of the obtained minimum delay paths***" and calculating the minimum delay paths from the candidate node to each of the destination nodes to select the rendezvous point node. Thus, according to the present invention, calculation of multicast delay variation is performed only for candidate nodes on a single minimum delay

[1] Sheu pp. 613-614 and Fig. 2.
[2] Id.

path, so that computational complexity decreases compared with Sheu in which multicast delay variation is calculated for every node as described in steps 6 and 7 of Fig. 2.

Therefore, Sheu fails to teach or suggest a method for obtaining multicast paths which includes obtaining minimum delay paths from the source node to each of the destination nodes, selecting, as candidate nodes of a rendezvous point node, nodes on one of the obtained minimum delay paths and calculating minimum delay paths from the candidate node to each of the destination nodes to select a rendezvous point node, as recited in independent Claim 1. Instead, as noted above, Sheu does not select and analyze nodes on only one of the obtained minimum delay path, but instead computes a multicast delay variation for every node in each of the paths between the source node and each of the destination nodes.

Accordingly, Applicant respectfully requests that the rejection of Claim 1 under 35 U.S.C. § 102 be withdrawn. For substantially similar reasons, it is also submitted that independent Claims 3, 5, 10 and 12 patentably define over Sheu and Applicant respectfully requests that the rejection of these claims under 35 U.S.C. § 102 and 35 U.S.C. § 103 be withdrawn.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1-13 is patentably distinguishing over the applied references. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.

Respectfully submitted,

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